imposing financial penalties) to force BOC implementation of these new arrangements, since enforcers' uncertainty about how long implementation should take makes it difficult (and inefficient) to specify rigid deadlines.

- 17. As the § 271 sequencing recognizes, however, these difficulties can be significantly mitigated by requiring as pre-conditions for BOC entry that all major new systems necessary to open the local market have been made available to entrants, and that their performance has been sufficiently demonstrated, absent such a demonstration, one cannot be confident that the systems indeed do what they promise. Such an entry standard does a better job of aligning incentives: the more informed BOC then has stronger incentives to implement things rapidly in order to expedite opening the local market and thereby its own long-distance entry. And establishing performance benchmarks to gauge the functioning of these new arrangements before authorizing BOC entry renders post-entry safeguards—regulatory, antitrust and contractual—more effective at countering subsequent BOC incentives to degrade these arrangements. Thus, authorizing BOC entry only after a BOC institutes the new access arrangements that are necessary to open the local market to competition is likely to greatly accelerate the emergence of local competition
- Although delaying BOC entry until the local market is open may impose some costs, the more rapid opening of the local market that will result is likely to yield significantly larger benefits to consumers. The local market is more than twice as large as long distance (net of access charges), and is largely a regulated monopoly; thus, adding even a modest dose of competition could yield major gains in lower costs and prices, improved service, and product innovation. BOC cooperation in providing wholesale local services also could permit others to compete relatively quickly in integrated services (such as by reselling local services along with long-distance and other services); the ability to offer integrated services is important to enabling long-distance carriers and others to compete effectively with a BOC once it is authorized to offer long-distance service. And in the long run, facilities-based local competition can aid regulation—and eventually, one would hope, supplant it—in safeguarding access arrangements for long-distance services in a less intrusive manner.
- The foregoing analysis persuades me that BOC entry is appropriate when, and only when, the market in the state has been irreversibly opened to local competition. I believe this entry standard will

provide incentives to the BOCs to extend the cooperation necessary to open local markets more rapidly and efficiently, will help establish the benchmarks enforcers need to maintain the new access arrangements post entry; and will permit BOC entry as rapidly as is consistent with these constraints. Opening the market does not require evidence of local competition of all forms and in all regions of a state sufficient to substantially discipline BOC market power. The Act aims to let market forces determine what forms of entry work best and where; and regulatory and other safeguards will still play a role in disciplining BOC abuse of market power. But, at a minimum, opening the local market requires full, meaningful implementation of the § 271 competitive checklist, not mere paper compliance.

- 20. By far the best test of whether the local market has been opened to competition is whether meaningful local competition emerges. Local competition establishes presumptions, the more widespread and varied it is, the greater our confidence that the market has been opened. In particular, use on a commercial scale of the new access arrangements needed to support all three modes of local entry envisioned in the Act—facilities-based, unbundled elements, and resale—demonstrates that competitors are obtaining what they need from the BOC. Local competition, even on a modest scale, can also signal entrants' willingness to commit investments and demonstrate their confidence in the openness of the market. Finally, the presence of local competitors can directly assist regulators in preventing future backsliding by the dominant incumbents
- 21. If sufficiently diverse competition fails to develop, it is important to understand why. As implied earlier, one possibility is simply lack of interest by entrants in pursuing certain entry modes in certain regions. But before reaching such a conclusion, it is important to ascertain that competition is not being stifled by artificial barriers. Thus, if sufficient competition fails to develop, there should be a rebuttable presumption that this is not due to lack of entrants' interest, but to a failure to irreversibly open the local market. Rebutting this presumption requires ascertaining that the main elements of an open market indeed are in place. The most important element, the logic for which was explained earlier, is the following. New technical and operational arrangements must be available and shown to be working to support all three entry modes envisioned in the Act, on a sufficient scale, and capable of being rapidly expanded and extended to regions where they are not initially

implemented; and for sufficient duration and variety to provide reliable benchmarks to assess and enforce future cooperation.

- 22. Procompetitive pricing of these key inputs also is necessary to inspire confidence that, despite the absence of sufficient actual competition, the market is indeed open. Prohibitively high prices would render the new access arrangements meaningless, to permit efficient local entry, entrants must have adequate assurance that BOC prices for these inputs will remain reasonable and cost-based after interLATA relief is granted. (The FCC has determined that the appropriate costs are forward-looking incremental cost for unbundled network elements and for transport and termination of local calls, and wholesale discounts off the retail price that are close to the incumbent's avoided retailing costs, in the case of local service sold to other carriers for resale.) Awareness that the § 271 entry process will weigh seriously whether key inputs are priced in a manner that supports efficient competitive entry will usefully complement state efforts in opening local markets
- Finally, one must ascertain that competition is not being hindered by any lingering major state regulatory or other artificial barriers (Although such barriers may be subject to preemption under § 253 of the Act, the timeliness and effectiveness of any such FCC preemption decisions is uncertain.) If such barriers are likely for some time to seriously hinder competitors' ability to avail themselves of the new access arrangements put in place with BOC cooperation, these arrangements could become obsolete and the value of such BOC cooperation will decay; and securing this cooperation again once the barriers have been removed but after BOC entry has been authorized will be considerably harder.
- In short, if sufficient local competition is observed, this demonstrates that the market has been irreversibly opened; if not, one should exercise more caution in approving the BOC's entry, and insist on offsetting evidence that the market indeed has been irreversibly opened. I have reviewed the Department of Justice's entry standard in light of this analysis. I conclude that it strikes a good balance between properly addressing the competitive concerns raised by BOC entry, and realizing the benefits from such entry as rapidly as can be justified in light of these concerns. It therefore serves the public interest in fostering competition

I. The 1996 Telecommunications Act and BOC Entry into Long-Distance Services

- The 1996 Act represents a major shift in U.S. telecommunications policy by establishing as a federal goal the promotion of competition in all telecommunications services. The most significant change is the requirement that local telephone markets, heretofore regulated franchise monopolies, be opened to competition. In addition and relatedly, the Act establishes a procedure for authorizing the BOCs to offer long-distance (interLATA) telecommunications services originating in their service regions after a BOC has sufficiently opened its local markets to competition and BOC entry is judged to be in the public interest.
- Section A below reviews the main relevant telecommunications markets and Section B discusses the Act's goals of increasing competition and improving performance in these markets Section C stresses why BOC cooperation will be critical to achieving the Act's goals, and section D discusses the benefits and costs of authorizing BOC entry before there is effective local competition. Based on this analysis, section E discusses the main principles that a procompetitive entry standard should incorporate

A. The Major Telecommunications Markets Relevant to BOC Entry

- The 1982 consent decree that broke up the vertically integrated Bell system (Modification of Final Judgment, "MFJ") created seven new regional BOCs, and divided those parts of the country served by the Bell system into Local Access and Transport Areas (LATAs); today, the BOCs serve 164 LATAs. Under the MFJ, a BOC could only offer telecommunications services within LATAs (intraLATA). InterLATA services have been provided by long-distance companies, also known as interexchange carriers (IXCs). Recently, however, some local exchange carriers (LECs) not subject to the Act's § 271 interLATA restriction on the BOCs, have been making serious inroads into long-distance services.
- 28. Superseding the MFJ, the 1996 Act authorizes any BOC immediately to offer long-distance (interLATA) services that originate in states outside its service regions. But to offer interLATA

U.S. v. AT&T, 552 F. Supp. 131 (D.D.C., 1982). Judge Greene entered the MFJ on August 24, 1984, and the divestiture was consummated January 1, 1984.

services originating in its region, a BOC must receive FCC approval under § 271 of the Act. A BOC applies for approval state-wide.² Approval is granted only after the FCC determines all of the following: (a) which if any of the two tracks stipulated in the Act the BOC is eligible to use at the time to satisfy the *competitive checklist* requiring it to open its local markets in the state to competition. Track A (interconnection agreement with a facilities-based competitor serving business and residential customers), or Track B (statement of generally offered terms to competitors where no request has been made by a provider for access and interconnection); (b) after consulting with the state commission, determines that the BOC, through Track A or B, has satisfied the competitive checklist, and (c) determines that such approval is in the *public interest*. In making its determination on a § 271 application, the FCC must consult with the Department of Justice and give substantial weight to its competitive assessment. (In addition. § 272 requires the BOC to offer interLATA services, both in and out of region, through a separate affiliate subject to certain safeguards.)

29. Since the Act links a BOC's interLATA entry authority to the opening of its local markets, in advocating a particular entry standard one must consider its effects on competition in both interLATA and local markets

1. The BOCs dominate key local networks and are regulated

30. Table 1 shows telecommunications revenues from local (intraLATA) markets now dominated by the BOCs in their regions, and from long-distance (interLATA) markets which the BOCs seek to enter. The data are for 1995, the most recent year for which comprehensive data are available ³

Once a BOC receives interLATA approval in any state, § 273 of the Act authorizes it also to enter manufacturing of telecommunications equipment, from which the BOCs are still barred. I have not been asked, in preparing this affidavit, to address equipment markets.

The data come from the FCC's Telecommunications Industry Revenue: TRS Fund Worksheet, December 1996 (TRS). There are some relatively minor discrepancies between the TRS data and the FCC's Statistics of Communications Common Carriers, 1995/96 (SCCC). I use TRS data because it covers more local carriers. In most cases only LECs with annual revenues over \$100 million are required to report to SCCC (the 53 such LECs reporting to SCCC for 1995 accounted for somewhat over 90% of all LEC revenues). In contrast, almost all telecommunications carriers (1,310) reported to TRS for 1995. Thus, TRS data cover more LECs (which helps explain some of the discrepancy between the TRS and SCCC data on LECs), and includes information on other local providers, CAPs (Competitive Access Providers) and CLECs (Competitive Local Exchange Carriers—new local entrants)

Despite some changes since the passage of the Act, notably an increase in the activity of local entrants (discussed shortly), the basic market relationships shown by the 1995 data have not changed markedly. Two points stand out. First, local revenues are twice as large as long-distance revenues (net of access payments collected by LECs). Second, incumbent LECs account for the vast majority of local revenues: \$102.8 bn compared with a combined \$0.6 bn for CAPs and CLECs; although CAP plus CLEC revenue has risen to about \$2 billion in 1996, it is still dwarfed by LEC revenues.

- 31. In their service regions the BOCs have virtual monopolies over *switched* services, both local exchange and exchange access to long-distance carriers. They also dominate special (or dedicated) access used by long-distance carriers. And in most states they also dominate intraLATA toll services, due to the BOCs' continuing ability in those states to deny to IXCs dialing parity (the ability of a customer to make intraLATA toll calls through an IXC without dialing more digits than through the BOC) before the BOCs begin providing interLATA services in these states ⁴ In 1995, the ratio of LEC revenues nationwide to long-distance revenue net of access was about 2-to-1 (Table 1); the BOCs accounted for about 73% of all LEC revenues nationwide (Table 1) and about 77% of all interLATA minutes originated in BOC service areas (SCCC, Table 2 10). The 2-to-1 ratio therefore is also a reasonable approximation of the relative sizes of (a) those markets which a BOC now dominates (local markets in its service areas) versus (b) those markets now closed to a BOC and in which the BOC would have the greatest impact (interLATA calls originating in its service areas) ⁵
- 32. In recent years, certain local competition has emerged. In central business districts, CAPs have constructed networks that enable large customers to bypass LECs and link directly to IXCs (mainly to send but not receive calls), and provide some links between local private networks. One

Competition has been growing in intraLATA toll service, especially in states that introduced dialing parity between the incumbent LEC and IXCs. IXCs' were estimated to account for about \$3.3 billion of intraLATA toll revenues in 1995, compared with \$10.1 billion for all LECs (Table 1). I discuss intraLATA dialing parity further in section II.B.

The Act bars a BOC (until it secures § 271 authority) from providing interLATA services that originate anywhere in its states, including parts of a state where local service is provided by other LECs not the BOC However, the BOC's competitive significance in interLATA services is likely to be greatest for calls originating in its service areas, where it dominates local networks. (Reflecting the difference that control of local networks can make, the Act permits the BOCs to offer interLATA services originating in out-of-region states.)

can expect CAPs and CLECs to expand into switched services, since the 1996 Act preempts many legal barriers that had precluded competition for such switched services in many states.⁶ But CAPs and other local entrants face more than just legal hurdles.

- 33. Expanding local operations is expensive, and requires significant cooperation from incumbents. As mentioned, the BOCs in their regions retain the only ubiquitous switched local networks. These consist of several major elements (a) The local loop is the sets of wires linking subscriber premises to the telephone company's wire centers (or "central offices"). This local distribution plant is by far the most expensive network element; duplicating it on a large scale would be prohibitively costly, and probably inefficient. (b) Switching facilities allow subscribers to communicate indirectly (as opposed to using point-to-point links) with others. Virtually all residential subscribers and small businesses depend on switched local access to originate and to terminate both their local and long distance calls, as non-switched access is only economical for large users. (c) Local transport facilities are high capacity trunk lines that connect central offices or other switches (d) The BOCs also control key databases, and key network signaling functions—the flow of information associated with setting up, disconnecting, and otherwise controlling a telephone call (information such as the identity of the parties, the duration of the call and the signal being transmitted, e.g., voice or data)
- 34. In view of their substantial market power, the BOCs and other LECs remain regulated in their prices for most local services and exchange access. Moreover, as explained shortly, the new Act requires incumbent LECs to offer numerous new "wholesale" local services at regulated prices to other telecommunications providers.

Indeed, Table 1 understates the revenues of CAPs and CLECs today. New Paradigm Resources Group (NPRG), based on data it developed together with Connecticut Research, reports the following trends. In 1996 CLECs, in which NPRG includes also CAPs, nearly doubled their revenues to \$2.2 billion and increased their market shares for all service categories. Their estimated shares of national totals are: 0.4% of local services; 1.8% of intraLATA toll; 0.3% of switched access services; and 10.6% of dedicated access services. NPRG expects these shares to increase considerably in the mid-term future as CLECs are aggressively deploying switch facilities. Still, NPRG notes that these shares remain negligible when compared to incumbent LECs—consistent with the pattern in Table 1—and concludes that, although strong competition for dedicated access services may exist today for selected locations, for the overall local telecommunications market, robust competition does not exist today. NPRG, Annual Report on Local Telecommunications. 1996-97.

2. Long-distance markets are relatively competitive and largely unregulated

35. The extent of competitiveness of long-distance markets is hotly debated (see section II.C), but it is surely greater than in local services. There are four national IXCs, which in 1995 had the following revenue shares: AT&T 53%, MCI 18%, Sprint 10%, LDDS/WorldCom 5%; there are also numerous other carriers, with a significant total market share of 14% (SCCC, 1995/96, Table 1.4). And there is considerable switching of customers between carriers. In short, while there is not perfect competition, there is considerable competition.

3. Inefficiencies in the present industry structure

- 36. While the MFJ succeeded in increasing competition in long-distance services, the current structure of the U.S. telecommunications industry is surely far from perfect.
- 27. Losses from separation. The MFJ's separation of activities based on LATAs imposes certain costs. As explained in section II, it precludes the BOCs from attempting to exploit various economies of scope, especially on the retailing side, associated with joint provision of local and long-distance services, from offering consumers the benefits of one-stop shopping and new services that require both local and interLATA facilities, and from bringing more competition to long-distance services (see the ensuing section I.D.1). LATA boundaries necessarily impose artificial separation between points near the boundaries, and do not always conform to economic markets or efficient network configurations. LATAs vary widely in size and population, intraLATA calls can travel hundreds of miles, thereby better resembling long-distance calls than local calls as regards the network facilities utilized. For all these reasons, confining the BOCs (or any other firms) to particular geographic

In finding AT&T non-dominant, the FCC assessed that "most major segments of the interexchange market are subject to substantial competition today, and the vast majority of interexchange services and transactions are subject to substantial competition." Motion of AT&T Corp. to be Reclassified as a Non-dominant Carrier, 11 FCC Rcd 3271, 3288, ¶ 26 (1995). The FCC reiterated these views a year later: "Thus, we believe that market forces will generally ensure that the rates, practices, and classifications [of IXCs] are just, reasonable, and not unjustly or unreasonably discriminatory. We also reject the unsupported suggestion that the current levels of competition are inadequate to constrain AT&T's prices." Policy and Rules Concerning the Interstate, Interexchange Market, CC Docket No. 96-61, Second Report and Order, FCC 96-424, ¶ 21, 22 (released October 31, 1996).

To some extent this reflects the choice of relatively large LATA boundaries at divestiture (a typical LATA is much larger than a local exchange network). However, even if at divestiture LATAs had been drawn to maximize the degree of separation between the perceived local monopoly bottlenecks and the potentially

regions or types of services is not a first-best solution.

- Absence of local competition. But the most glaring problem today is one that the MFJ was not designed to alter: the absence of local competition. Indeed, confining the BOCs may have been the best guardian of nascent long-distance competition in an era where persistence of the BOCs' regulated local monopolies was taken as given. Replacing such monopolies with local competition, however, can ultimately provide a better safeguard for long-distance competition, while also allowing removal of current restrictions on the BOCs.
- 39. In addition to safeguarding competition in long distance, introducing local competition at this point is likely to yield even greater benefits by improving market performance in the provision of local services, including local exchange and exchange access, and of integrated services. The local market is more than twice as large as long distance (Table 1), and is largely monopolized by incumbent LECs. While regulation holds down some LEC prices, it introduces its own costs ¹⁰ These include: a distorted price structure; rigidities in adjusting prices to changing conditions; and weakening firms' incentives to contain costs (if regulation is largely cost-based), to maintain quality (if regulation is of the price-cap variety), and to be innovative and responsive to customer demands Where feasible, competition is far superior to regulated monopoly as a device for promoting cost reduction, innovation, and superior service.

competitive segments, airtight separation would still be impossible. The boundary between "monopoly" and "potentially competitive" segments is not stationary, but changes with technology and the advent of new services. Any rigid regulatory separation is therefore bound to become imperfect.

The BOCs' own statements implicitly acknowledge that regulation is an inferior safeguard to competition. "This competition (from CAPs) was driving the Bell companies to lower the price and raise the quality (emphasis added) of their local exchange services even before the 1996 Act." Joint Response of Bell Atlantic and US West to Joel Klein letter, December 13, 1996, 32-33.

Robert W. Crandall and Leonard W. Waverman, Talk Is Cheap: The Promise of Regulatory Reform in North American Telecommunications, The Brookings Institution, 1995, chapters 3, 8 ("Crandall and Waverman, 1995"). Gerald W. Brock, Telecommunications Policy for the Information Age: From Monopoly to Competition, Harvard University Press, 1994, chapters 12, 14, 15

B. The New Competitive Vision in the 1996 Act

40. The 1996 Act creates a clean slate and offers an unusual opportunity to remedy many of the above deficiencies in the present industry structure.

1. The Act aims to promote unfettered competition in all markets

- The Act's unifying goal is increased competition in all markets and the eventual elimination of artificial service boundaries. This means more competition in providing: local services; long-distance services; and "integrated services"—the options of one-stop shopping for, or obtaining bundled packages of, these and other telecommunications services.¹¹
- 42. If successful in promoting local competition, the Act will eventually allow the replacement of detailed, hands-on regulation of local retail prices and services with a combination of local competition and more confined and less intrusive regulation of only key bottleneck network services.¹² (Some regulation of interconnection, especially of termination charges, will be necessary for some time, as explained shortly.) And it will permit any firm to offer any service anywhere, including doing away with restrictions on what services the BOCs may offer and how. As the FCC put it.

Indeed, the relationship between fostering competition in local telecommunications markets and promoting greater competition in the long distance market is fundamental to the 1996 Act... the opening of one of the last monopoly bottleneck strongholds in telecommunications—the local exchange and exchange access markets—to competition is intended to pave the way for enhanced competition in all telecommunications markets, by allowing all providers to enter all markets. 13

One-stop shopping and bundled packages are closely related notions, but not identical. One-stop shopping lets a customer obtain the same services as before, but from a single source. Bundled packages entail combining and pricing the individual services in new ways. Some customers may demand only one-stop shopping; others may value bundles, while continuing to shop for individual elements separately (e.g., in response to special promotions); still others may choose to purchase only integrated bundles and only from the same source. For brevity I will refer to these features collectively as "integrated services."

See, e.g., Joseph Farrell, "Creating Local Competition," Speech delivered at FCC, May 15, 1996 ("Farrell 1996").

In the Matter of Implementation of the Local Competition Provisions in the Telecommunications Act of 1996, CC Docket No. 96-98, First Report and Order, (Aug. 8, 1996) ("Local Competition Order"), ¶ 4.

2. The Act seeks to enable various forms of local competition

- The Act discusses three forms of entry into local markets facilities-based, resale, and unbundled network elements
- 44. Facilities-based entrants serve their subscribers using their own network facilities except to exchange traffic with the incumbent LEC.
- services provided by the incumbent (total service resale), combined perhaps with other services. They undertake all the relevant customer-interface functions such as billing and marketing ("retailers" is therefore a better description than the conventionally-used "resellers," since the latter suggests only an arbitrage function).
- 46. Entrants using unbundled elements may lease from the incumbent unbundled network elements, individually or in combination, for example, leasing the incumbent's unbundled loops but providing their own switching facilities.¹⁴
- All the above entry modes can serve valuable competitive roles. Facilities-based entry potentially exerts the greatest competitive discipline on the incumbent. But it may not always be desirable, as it could require costly duplication of existing facilities such as loops that could more economically be obtained from the incumbent. Even where desirable, such entry could take considerable time. It is thus important to recognize the potential value of the other two entry modes.
- 48. Entry by firms that are not entirely facilities based can be beneficial in various ways. First, an entrant could bring direct competitive discipline to those segments it enters, in the form of lower costs and prices or higher quality. For example, resellers might perform retailing functions more effectively than an incumbent; loop unbundlers might limit an incumbent's ability to discriminate against IXCs through control over the intelligence embedded in the switch. Even entrants that are no more efficient could undercut the incumbent by accepting a lower profit margin—because regulation is

Important differences between resale and the use of unbundled elements stem from the different standards for pricing stipulated in the Act in the two cases (as I explain in section V), and from increased opportunities that use of unbundled elements offers for access competition, product and service innovation, and eventual migration to facilities-based entry.

unlikely to succeed in lowering the incumbent's prices all the way to cost. In addition to such direct competitive discipline, entrants can provide indirect discipline: by giving regulators a benchmark of true costs or technical capabilities, they can assist them in better regulating the incumbent.

- Second, such entry can increase product variety and quality. For example, reselling local services enables entrants that provide also other services to offer one-stop shopping without having to build facilities for all their services or in all regions; the major IXCs among others view such ability as very important. Resellers or entrants using unbundled elements might offer new pricing plans better tailored to certain customers than are the incumbent's offerings. Entrants using unbundled loops might offer new switch-based ("vertical") services. More generally, smaller entrepreneurial firms could stimulate innovation if given the opportunity to specialize in segments where they enjoy a comparative advantage while obtaining from the incumbent at cost-based prices other unbundled elements they require
- 50. Third, such entry modes can assist and accelerate the transition to full-facilities competition, by allowing entrants to attain a customer base before being forced to build extensive facilities. Requiring entrants to be entirely facilities-based at the outset would saddle them with unnecessarily high fixed costs and excess capacity (while subscribers are being added), making entry more risky and more costly. Conversely, granting entrants access at reasonable prices to complementary LEC facilities during the transition could permit a faster and more economical transition to full-facilities competition. Indeed, in the long-distance market some entrants began mainly as resellers and added their own capacity as their name recognition and subscriber base grew. 15
- Recognizing the potential value of all entry modes, the FCC observes: "Section 251 neither explicitly nor implicitly expresses a preference for one particular entry strategy. Moreover, given the likelihood that entrants will combine or alter entry strategies over time, an attempt to indicate such a preference in our section 251 rules may have unintended and undesirable results. Rather, our

In long distance, however, there is an active wholesale market because multiple facilities owners compete to provide bulk capacity. Before such competition emerged, regulation was required to induce AT&T to provide wholesale capacity to others. Similarly, implementing local resale today—and other wholesale local services—will require regulation as long as LECs retain dominance over local networks.

obligation . . . is to establish rules that will ensure that all pro-competitive entry strategies may be explored." (Local Competition Order, ¶ 12.)

C. Cooperation by Incumbent LECs Will Be Critical

- Removal of legal and regulatory barriers is enormously important to promoting local competition, which is the key to securing the Act's goals. But Congress recognized that removing legal barriers is only half the battle. One must also remove artificial obstacles mounted by incumbent LECs, since all local entrants need access to certain LEC inputs
- Facilities-based entrants require interconnection. A facilities-based entrant would still require good and reasonably-priced interconnection to the LEC's public switched network Interconnection is vital because the essence of communication is the ability to reach and be reached by others. Thus, telephone service exhibits such unusually strong positive "network externalities"—the network's value to a subscriber increases greatly with the number of subscribers that can be reached through the network. Initially an entrant will have far fewer subscribers than the incumbent, so if networks were not adequately interconnected, customers would prefer the incumbent's even if the entrant's network was otherwise superior.
- As a result, the incumbent can use ubiquity advantages that derive from control of its installed subscriber base and bottleneck facilities as strategic weapons to stifle entry ¹⁶. For example, the incumbent might impose onerous interconnection terms or deny number portability (the ability of

A transparent example of the importance of "interconnection" (or "compatibility") in the face of ubiquity, is directory assistance. A firm with only a small subscriber base would be inherently limited in its ability to offer adequate such services—whether through operator services, yellow pages, or other modes—if denied access to the necessary information about the incumbent's subscribers. Industrial organization economists have recognized the importance of ubiquity and installed-base advantages in industries characterized by strong (positive) network externalities. Non-technical surveys of this literature and relevant bibliography can be found in Michael L. Katz and Carl Shapiro, "Systems Competition and Network Effects," Journal of Economic Perspectives, vol. 8, no. 2, Spring 1994, 93-115, and Stanley M. Besen and Joseph Farrell, "Choosing How to Compete: Strategies and Tactics in Standardization," same journal and issue, 117-131. The need for interconnection (broadly defined) is probably more acute in telecommunications than in any other industry. For a recent formal analysis of strategic use of interconnection pricing (what the 1996 Act calls "transport and termination" charges) to reduce competition see Jean-Jacques Laffont, Patrick Rey, and Jean Tirole, "Network Competition: I. Overview and Nondiscriminatory Pricing," and "Network Competition: II. Price Discrimination." Institut d'Economie Industrielle, Toulouse, 1997.

customers to maintain their telephone numbers if they switch to an entrant). Overcoming such ubiquity barriers in telecommunications would be very difficult without the aid of regulation. On this point, economists are—quite out of character—virtually unanimous. Thus, until the incumbent's share of subscribers is significantly eroded, even efficient facilities-based competitors will depend on continued regulation to discipline the incumbent's interconnection terms and prices; to secure number portability; to allow its customers to call any subscriber of the incumbent in the local area without dialing more digits than would another subscriber of the incumbent ("local dialing parity"); and to access common signaling facilities and databases.

- 55. Resellers require adequate wholesale discounts Resellers require the incumbent's cooperation in switching over customers and in obtaining access to various operations support systems. In addition, since resellers undertake costly retailing functions such as marketing and billing otherwise performed by the LEC, to succeed even an efficient reseller must obtain the LEC services at wholesale prices discounted off the LEC's retail prices by an amount equal to the LEC's avoided retailing costs.
- 56. Partial-facilities entrants require network unbundling Like a full-facilities entrant, a partial-facilities entrant also requires interconnection so its subscribers can communicate with the incumbent's. But it requires also network unbundling—access at economical pricing to that subset of network elements it wishes to lease from the LEC. The degree of incumbent cooperation needed to make unbundling work efficiently is probably even greater than for the other two entry modes, since unbundling can involve reaching deeper into the network ¹⁷
- The Act (§§ 251, 252) requires incumbent LECs to provide the above requisite cooperation to all local entrants. But requiring incumbent cooperation and attaining it are two different things. Incumbents are naturally inclined to resist any encroachment by competitors, and regulators will have their work cut out for them in implementing the Act's requirements for promoting local competition.

As a general matter, although unbundling requirements may generate competitive benefits, such requirements potentially create organizational diseconomies as well. The extent of these benefits and costs vary from industry to industry, and depend also on the degree of unbundling that is required. The 1996 Act reflects a policy judgment that it will be economically beneficial to require the unbundling of certain elements of the networks of incumbent LECs, and I have assumed here that this Congressional judgment is correct.

Softening incumbents' resistance and inducing greater cooperation would therefore be quite valuable.

As I will show, this point is critical for developing a procompetitive BOC entry standard.

D. The Potential Benefits and Costs of BOC Entry: Overview

There is broad agreement that BOC interLATA entry is in the public interest once the BOC faces sufficient local competition to eliminate its local market power. But what are the tradeoffs from authorizing earlier BOC entry?

1. Potential benefits

- 59. The potential benefits of earlier BOC entry are conceptually straightforward. Briefly, BOC entry could allow realization of economies of scope, especially in retailing functions offering local and long-distance services jointly could produce large savings in billing, marketing, and other costs. Moreover, it is widely believed that many consumers would value highly the simplicity and convenience of a single bill, a single customer service representative, and other advantages of one-stop shopping for all their telecommunications services, as well as being able to obtain new bundled packages of such services. The BOC in its region is unusually well positioned to tap these advantages on both the supply and demand side of joint provision because it is the dominant provider of a key ingredient, local services, and enjoys an established reputation and customer base.
- 60. In the longer run, these advantages of joint provision are not unique to the BOCs, other telecommunications providers with established reputations (such as the major IXCs) could realize these benefits provided the BOCs and state regulators have effectively opened the local markets to competition as required in the Act However, in the short run the BOCs do possess some special advantages in joint provision (see section II.A).
- Aside from these benefits of joint provision, BOC entry could bring more competition in long-distance services. The BOC is unusually well placed to provide such additional competition, especially for residential and low-volume business customers, due to various advantages deriving from its powerful brand name and established customer links in its region (see section II.C.2). Indeed, because there are always potential benefits from letting any firm try its luck in any market, economists' normal instinct is to avoid placing artificial entry restrictions, unless there are strong offsetting considerations

2. Potential costs

- In this case, however, there are offsetting considerations. It is important to understand these potential costs in order to appreciate why BOC entry cannot be analyzed as just generic entry by any other firm. Because the potential costs and how to best address them are less transparent than the benefits, this affidavit devotes more attention to analyzing these issues.
- 63. In a nutshell, a BOC's control over key local network inputs needed by others to compete in local services, long-distance services, and integrated services could enable it to inefficiently handicap rivals and distort competition in all these services. A BOC's incentives to handicap such rivals will increase after entry, compared to its pre-entry incentives under a suitably structured entry standard. These altered incentives can be very damaging, since regulatory (and other) oversight cannot always secure BOC cooperation in supplying inputs to rivals as effectively as would be forthcoming if incentives were better aligned. I outline next why BOC incentives to cooperate will diminish post entry, then discuss the ability of regulatory oversight to enforce cooperation in the face of these reduced BOC incentives. Section E draws out the implications for the design of a procompetitive entry standard.
- 64. Authorizing BOC entry affects BOC incentives through two main channels: (a) leverage into long-distance and integrated services; and (b) emboldened resistance to local competition.

a. Leverage into long-distance and integrated services

65. Long-distance services. The Department of Justice sought the Bell System's 1984 divestiture of its local telephone operating companies to prevent misuse of these key monopoly local networks to stifle competition in related markets—notably long-distance services, equipment manufacturing, and information services—that were viewed as potentially competitive but heavily dependent on access to these local networks. Incentives to artificially favor one's affiliates in adjacent markets flow in large part (though certainly not entirely) from asymmetric regulation. A firm whose prices are regulated at the bottleneck, as the Bell system was for local telephone services and as the BOCs are today, has strong incentives to circumvent such regulation by favoring its unregulated (or less tightly

regulated) operations in adjacent markets.¹⁸ The favoritism can involve cross-subsidization (see section III B.1.a). More importantly, it can involve non-price access discrimination—hampering rivals' access to the bottleneck, for example, by imposing conditions that inflate rivals' costs or degrade their quality (see section III.A.1). This enables the firm to raise its (less regulated) prices in those adjacent markets, while distorting competition and harming consumers in the process.

- 66. The choice to seek divestiture of the regulated local telephone monopolies from long-distance segments reflected a judgment that, at that time, regulation could not—without being overly intrusive—adequately control the myriad types of (non-price) access discrimination that a vertically-integrated entity could employ. If allowed into long distance, BOC incentives would resurface to attempt access discrimination against IXCs in order to circumvent regulation. Indeed, today there may be a new motive for access discrimination, namely, to weaken the major IXCs as potential entrants into local services; BOC entry reduces the cost to it of engaging in such behavior since lost access revenue from reduced IXC sales is partly offset by increased BOC long-distance sales (see section III B 2 a). However, a BOC's ability to act on its incentives and engage in such access discrimination is weaker today, as explained shortly
- 67. Integrated services. The ability to offer integrated services is widely emphasized as competitively important, both due to cost savings from joint provision and to the willingness of some consumers to pay a premium for dealing with integrated providers. The key inputs that non-BOCs lack to offer integrated services in a BOC's region are the monopolized local services; long-distance and other services can be readily obtained from alternative providers. A BOC's entry into long-distance—and hence integrated services—directly reduces its incentives to supply others key wholesale local services which they need to provide integrated services. As with long-distance services, a main driver of BOC leverage incentives into integrated services is asymmetric regulation: the BOCs are likely for some time to remain regulated in their prices for local services or inputs, but would become unregulated (or less regulated) in retail sales of long-distance services. The wrinkle

See, for example, Timothy J. Brennan, "Why Regulated Firms Should Be Kept Out of Unregulated Markets Understanding the Divestiture in United States v. AT&T," Antitrust Bulletin 32 (1987), 741-793

here is that undermining competitors in integrated services by withholding from them good access to wholesale local services could benefit a BOC beyond attempting to degrade only long-distance access.

68. The reasoning is as follows. Regulation is likely to be more effective in preventing a BOC from degrading existing long-distance access arrangements than in prodding it to establish the largely new arrangements for wholesale local services (see section I.E below and section IV). Thus, impeding access to wholesale local services can be a more potent way for the BOC to weaken competitors in integrated services. This in turn could be profitable for at least two reasons. (a) Limiting rivals' ability to realize cost savings from joint provision of services also limits the downward pressure they can exert on the BOC's unregulated prices for long-distance services (b) Some customers are willing pay a premium to deal with a provider of integrated services (e.g., they value one-stop shopping), hence, a BOC could extract higher (unregulated) prices from such customers for its long-distance services if can impede other providers of integrated services

b. Emboldened resistance to local competition

- 69. Local services. Promoting local competition is a key stand-alone goal of the Act (witness the §§ 251, 252 requirements on all incumbent LECs), but one whose attainment will require considerable LEC cooperation. Naturally, all other things being equal, the LECs are reluctant to extend such cooperation to competitors that could threaten their local dominance (this reluctance does not hinge on a LEC's status as subject to price or profit regulation). Providing LECs with incentives to cooperate can greatly accelerate the process. In the case of the BOCs, the promise of interLATA entry conditional on having first provided appropriate cooperation can be a potent tool for enticing cooperation. This point is very important.
- The BOC is likely to be far better informed than regulators about how to establish the new local access arrangements and how long this should take. Thus, authorizing BOC entry only after the requisite arrangements necessary to open the local market are made available puts the onus in the right place: the BOC's desire for earlier entry prods it to implement its part quicker. Conversely, the ability to prod a BOC to implement new systems diminishes significantly once entry authority is granted. Absent meaningful benchmarks, penalty threats are problematic, because regulators and

courts lack the information about what are reasonable implementation lags for new systems.

Authorizing BOC entry before its local market is open would thus prematurely embolden the BOC to stiffen its resistance to opening its market.

E. Principles for a Procompetitive Entry Standard

- By itself, allowing a BOC to offer long-distance and integrated services is desirable; the potential benefits could be substantial. The danger with premature BOC entry, however, is certainly not that it will enhance the BOC's ability to compete, the danger is that it will allow the BOC to impede others' ability to compete. A procompetitive BOC entry standard should strive to ensure that all parties are given an opportunity to compete on the merits. As the FCC's former chief economist has put it, our goal should always be to level the playing field upwards (Farrell, 1996).
- Given the importance of good access to BOC local networks for protecting competition in long-distance services and for promoting it in local and in integrated services, the costs of "early" BOC entry are likely to outweigh the benefits if regulatory and other safeguards cannot assure good access in the face of reduced BOC incentives to cooperate. A key question therefore for developing a procompetitive entry standard concerns the efficacy of various post-entry safeguards in enforcing BOC cooperation.
- Economic reasoning suggests—and historical experience confirms (see section IV)—that the efficacy of regulatory oversight varies widely with the economic environment. Regulation, while never perfect, fares much better in a stable environment where information is reasonably symmetric. than in a rapidly changing environment where informational asymmetries are greater and more frequent adjustments are needed. Correspondingly, regulatory oversight does much better at enforcing existing access arrangements than at overcoming incumbents' resistance to rapidly implement new arrangements, for which the lack of historical benchmarks on what constitutes acceptable performance gives incumbents great latitude for plausible deniability.
- 74. These observations have important implications. Because access arrangements for long-distance services have had over a decade to develop, the combination of regulation and established voluntary arrangements among IXCs and LECs is likely to prevent any significant degradation of these established arrangements. Although the necessary arrangements will certainly evolve over time,

my understanding is that radical changes in access arrangements governing the majority of interexchange revenues are not imminent. The evidence thus suggests that, when weighed against the potential benefits of BOC entry, the threat to long-distance access arrangements from allowing BOC entry is tolerable in the short run.¹⁹

- 75. The picture is quite different regarding access arrangements for local competition. These arrangements—for interconnection and, especially, for network unbundling and total service resale—are largely new and untested. Implementing them will require substantial cooperation by incumbent LECs in developing a host of new technical, operational and business protocols, and in establishing appropriate prices. Incumbents will have wide latitude to stall the process by foot dragging, slow rolling, and otherwise withholding cooperation "Sins of omission" of this sort are especially difficult for outsiders to detect and prevent, since there is no historical benchmark to guide what is possible and to gauge deviations from this norm. Thus, local competition will evolve more expeditiously and more efficiently if the BOCs have greater incentives to cooperate in putting in place the new access arrangements needed to open their local markets to competition
- An appropriately structured interLATA entry standard can play a major role in stimulating BOC cooperation. One should harbor no illusions incumbent LECs have great latitude to help or hinder the evolution of local competition, and a suitable BOC entry standard can elicit much more BOC cooperation in establishing and properly pricing the key new arrangements.
- On the other hand, once the major new arrangements have been established and shown to be commercially operable, and once reasonable prices for them have been set, a track record is created for what constitutes "good performance." Post-entry safeguards—regulatory, antitrust and contractual—then become more effective at countering BOC attempts to reduce cooperation, since the performance benchmarks can help enforcers to prevent future backsliding and to extend these arrangements to other regions or other entrants. Thus, authorizing BOC entry only after the major

Over the longer term, technical evolution could give rise to greater problems for regulators in safeguarding long-distance access if local competition fails to develop

I understand that several CLECs have incorporated certain performance benchmarks into their contracts with penalty clauses if BOCs fail to meet such standards. Moreover, several state commissions such as in Illinois and Georgia have or may soon receive authority to enforce performance standards by levying fines where

new access arrangements are in place—or demonstrably made available—can cement important steps to irreversibly open local markets to competition.

- 78. It is important, however, that these new access arrangements be demonstrated to work on a commercially significant scale, under real-world strains; arrangements that exist only on paper or have not been meaningfully tested do not provide much comfort. As with any new ventures, there will be inevitable growing pains, it is important to iron out the kinks while the BOC is still relatively inclined to cooperate—that is to say, before interLATA entry has been authorized. The § 271 entry authority thus is a potent one-time measure that, if properly used, can achieve a real advance in local competition—with favorable effects also on competition in integrated services, and in the longer run also on competition in long distance.
- Weighing the potential benefits and costs of BOC entry leads me to advocate the following entry standard. BOC interLATA entry should be authorized only if there is sufficient confidence that the local market in the state has been irreversibly opened to competition. Authorizing earlier entry would raise serious competitive concerns, while delaying entry once the local market is open would unnecessarily deprive consumers of potentially large benefits. This open-market standard does not require the presence of effective local competition of all forms and in all regions of the state; the Act aims to let market forces determine what modes of competition work best and where, and regulatory and other safeguards will still play a role in preventing abuse of BOC market power. But it does require considerably more than paper compliance with the competitive checklist.
- By far the best test of whether the local market has been opened is observing the emergence of meaningful local competition. Local competition establishes presumptions, the more widespread and varied it is, the greater our confidence that the local market has been irreversibly opened. Use on a commercial scale of the new access arrangements needed to support all three local-entry modes envisioned in the Act—facilities-based, unbundled elements, and resale—demonstrates that competitors are obtaining what they need. If sufficiently diverse competition fails to develop, it is

appropriate. Peter Elstrom, "Let the Telecom Dogfight Begin," Business Week, April 7, 1997. Finally, even after BOC entry the Act authorizes the FCC to halt a BOC's signing of additional customers. All these safeguards become much more effective once there is a clearer notion of what constitute violations.

important to understand why. An absence of sufficient competitive entry calls for skepticism in approving an entry application, requiring offsetting evidence that the absence of competition reflects lack of interest by entrants. In the absence of such a showing, the presumption would be that the market has not been irreversibly opened. For reasons sketched in the earlier Summary and explained further in section V.D, the main requirements for an open market are: full, meaningful implementation of the major new technical and operational access arrangements for local competition, adequate assurance that BOC prices are reasonable and cost-based and will continue to remain so after interLATA relief is granted, and removal of major state regulatory or other artificial barriers that are likely to significantly delay local competition

The remainder of this affidavit fleshes out the basis for these conclusions. Section II discusses the likely benefits from early BOC entry. Section III discusses the competitive concerns, and section IV addresses the efficacy of regulatory and other post-entry safeguards in counteracting these concerns. Section V elaborates on the requirements needed to determine that the local market is irreversibly opened to competition, and concludes that the Justice Department's entry standard correctly incorporates these requirements and therefore serves the public interest in promoting competition.

II. Potential Benefits of BOC Entry

There are potentially significant benefits from early BOC interLATA entry. The argument rests on two points (1) BOC entry can bring certain efficiencies, and (2) these efficiencies cannot be attained by other providers as fully or expeditiously without BOC entry (if they could, BOC entry would not be necessary). Step (2) arises because the BOCs today would possess certain unique advantages in providing integrated services; and because the Act ties the removal of certain constraints on the ability of other firms to compete to the approval of BOC interLATA entry. The resulting potential benefits from BOC entry include: A) cost savings and introduction of new integrated services, made possible by joint provision of local and long-distance services, B) increased competition in intraLATA toll services in states that now lack dialing parity; and C) increased competition in interLATA services

A. Joint-Provision Efficiencies: Cost Savings and New Integrated Services

The efficiencies from jointly providing local and long-distance services largely involve (a) on the supply side, the cost savings from joint retailing of services; and (b) on the demand side, the value to consumers of one-stop shopping and other new integrated services.

1. Cost savings

- 84. Technological economies on the network side exploitable only through BOC interLATA entry seem modest. First, IXCs' network costs are only a relatively small share of their total cost of providing long-distance services, so there is only relatively little cost to cut; several BOCs reportedly have signed contracts with IXCs to lease wholesale long-distance capacity at prices between 1 and 2 cents per minute. Second, the separate affiliate requirement in § 272, aimed at combating cross-subsidization and discrimination, appears to preclude network integration and therefore to restrict attainment of network economies in providing local and long-distance services, to the extent such economies did exist. Finally, I am not aware of compelling evidence that significant such economies do exist. Consistent with these arguments that the economies exploitable on the network side are only modest, various BOCs plan to offer long-distance services—at least initially—not by expanding their own facilities but primarily by leasing wholesale IXC capacity.
- 85. Retailing economies however do appear significant. Offering an additional service (i.e., long-distance) to existing customers entails lower incremental costs of marketing, billing, customer service, and other retailing functions than the corresponding costs of providing that service alone.²² A BOC offering long-distance services could plausibly realize cost savings in these retailing functions of around 2 to 2.5 cents per minute compared to an IXC that is not providing integrated services (see

Merrill Lynch, Telecom Services—RBOCs & GTE, November 13, 1996. Salomon Brothers, Telecommunications Services, April 17, 1996.

Whereas §§ 272(a), (b) appear to restrict network integration, § 272(g) permits joint marketing of local and long-distance services by a BOC or its affiliate, thus allowing the realization of certain retailing economies. Retailing costs are significant. Crandall and Waverman (1995, p. 142) estimated AT&T's 1993 costs per interstate conversation minute net of access payments as: Plant and operations costs, 3.7 cents (Crandall and Waverman as well as others believe the figure is lower today); Marketing and customer service, 3.9 cents. General and Administrative, 2.9 cents.

discussion below, however). Taking the average price of a domestic interLATA call to be roughly 13.5 cents, this would represent a 15%-19% savings.

2. New integrated services

Quite aside from cost savings, joint retailing of local and long-distance services can provide direct benefits to consumers, akin to obtaining a new, higher-quality product. Consumers therefore could benefit even if the prices of the underlying services did not fall due to cost savings. Consumers are said to value highly the convenience and simplicity of one-stop shopping and other advantages offered by an integrated services provider. The impressive success of GTE and other non-BOC LECs at capturing long-distance business, sometimes without undercutting IXCs' prices, attests to the importance of offering integrated services.²³ If provided interLATA authority, a BOCs could make available the benefits of such integrated services to consumers in its service regions.

3. The ability of other carriers to attain these efficiencies

- 87. A BOC, if allowed interLATA entry, would currently enjoy certain advantages over most or all other carriers in the joint provision of telecommunications services in its region: (a) its established brand name allows it to market additional telecommunications services at relatively low costs of advertising and promotion, (b) its existing relations with virtually all local subscribers allows it to offer billing and customer service for added services at relatively low cost; (c) partly for these reasons, it can obtain lower wholesale prices for long-distance capacity from IXCs than can others, and, most importantly, (d) its control of local networks makes it the dominant source of key local services needed to offer integrated services
- The largest IXCs similarly enjoy strong reputations and established customer relations with telephone subscribers in the BOC's region. Thus, they could match many if not all of the efficiencies deriving from (a) and (b), provided they could obtain comparable access to (c)—the key local

GTE, the largest LEC, signed more than 750,000 long-distance customers between March 1996 and December 1996 (and by February 1997 over 1 million), and cited a big reason for this success to be customers' preference for a single bill and a single number for customer service. Gautam Naik, "GTE to Introduce Flat-Rate Toll Calls For Business Users," Wall Street Journal, December 18, 1996. Reportedly, GTE did not engage in any substantial under-pricing of the major IXCs, based on published plans. Merrill Lynch, Telecom Services—Long Distance, Second Quarter Review, August 12, 1996.

services now controlled by the BOCs.²⁴ The Act, of course, requires all incumbent LECs to provide such access to wholesale local services; however, delaying BOC interLATA entry until such comparable access has been secured would delay the advent of benefits from joint provision. The basic reason is that implementation and proper pricing of access to the various new wholesale local services required by the Act will take time.²⁵ Thus, there is a benefit side to allowing early BOC entry. (The cost side of authorizing BOC entry before certain market-opening measures have been implemented is discussed later.)

B. Increasing the Competition in IntraLATA Toll Services via Dialing Parity

Section 271(e)(2)(B) of the Act prohibits a non-excepted state from requiring a BOC to implement intraLATA toll dialing parity before February 1999 unless the BOC is authorized to offer interLATA services in the state. Section 271(e)(2)(A) requires a BOC to implement intraLATA toll dialing parity when it begins offering interLATA services. Thus, BOC interLATA entry would indirectly boost competition in intraLATA toll services by triggering dialing parity; such dialing parity has proven to be very important for stimulating intraLATA toll competition. In Minnesota, for

IXCs may still face some disadvantages in joint retailing, e.g., IXCs sometimes rely on BOCs for local billing, hence would face a cost disadvantage unless the BOC offered billing services to them at cost. One must also distinguish BOC retailing advantages that reflect cost savings from those that reflect misappropriation of IXC "assets." For example, when an IXC requests from the BOC a local access arrangement needed to provide a new long-distance capability to a customer, the BOC may alert its long-distance operation to the customer's needs and beat the IXC to the punch. Such behavior constitutes misappropriation of IXC information, essentially free riding on the marketing efforts of the IXC, the separate affiliate requirements in § 272 of the Act bars such behavior, as well as other forms of discrimination.

In addition to these inevitable delays, there may be binding constraints imposed by the Act itself. The quickest route for non-BOCs to offer integrated services on a large scale would be to obtain local services from the BOCs at discounted wholesale prices for resale. But § 271(e)(1) of the Act prohibits the three largest IXCs (any carrier that at enactment served more than 5% of U.S. presubscribed access lines)—who are also the most likely large-scale potential competitors to the BOCs in integrated services—from jointly marketing resold local services with long distance-services until February 1999, unless the BOC is authorized to offer interLATA services in the state before this date. It remains unclear whether the restriction also would apply to local services obtained by purchasing all required unbundled network elements from the BOC (the so called "platform").

Single-LATA and states that ordered dialing parity by December 19, 1995 are excepted. As of April 22, 1997, there were 26 multi-LATA states where toll dialing parity is thus precluded by the Act. In 1995, 62% of all completed intraLATA toll calls originated in these states. SCCC 1995/96, Table 2.6.